Amendments to the claims:

1(Canceled).

2(Canceled).

3(Previously presented). An optical semiconductor device comprising an edge-emitting laser having an active layer comprising, an n-p junction between an n-type layer and a p-type layer, said active layer emitting light when holes and electrons recombine therein, said active layer having a polarization field therein having a field direction that depends on the orientation of said active layer when said active layer is grown, wherein said active layer has an orientation such that said polarization field is directed from said n-layer to said p-layer, said semiconductor device further comprising a substrate, an n-type base layer on said substrate, and a reverse biased tunnel diode between said active layer and said n-type base layer.

4(Previously presented). An optical semiconductor device having an active layer comprising an n-p junction between an n-type layer and a p-type layer, said active layer emitting light when holes and electrons recombine therein, said active layer having a polarization field therein having a field direction that depends on the orientation of said active layer when said active layer is grown, wherein said active layer has an orientation such that said polarization field is directed from said n-layer to said p-layer, wherein said semiconductor layers are grown on an n-type GaN base layer having a reversed c-axis.

5(Original). The optical semiconductor device of Claim 4 wherein said base layer comprises a GaN layer grown by molecular beam epitaxial deposition.

6(Previously presented). An optical semiconductor device having an active layer comprising, an n-p junction between an n-type layer and a p-type layer, said active layer emitting light when holes and electrons recombine therein, said active layer having a polarization field therein having a field direction that depends on the orientation of said active layer when said active layer is grown, wherein said active layer has an orientation such that said polarization field is directed from said n-layer to said p-layer, wherein said

semiconductor device is grown on a substrate having a planar surface and wherein said n-p junction is tilted at an angle with respect to said substrate.

7(Canceled).

8(Canceled).

9(Previously presented). In a method for fabricating a semiconductor light emitting device comprising a plurality of semiconductor layers including an active layer between an n-type layer and a p-type layer, said active layer generating light by the recombination of holes and electrons, said active layer having a polarization field therein with a field direction that depends on the orientation of said active layer when said active layer is grown, the improvement comprising growing one of said plurality of semiconductor layers on a base layer such that said polarization field is directed from said n-layer to said p-layer,

wherein said base layer is generated by growing a GaN seed layer having a top and bottom surface, said bottom surface being in contact with a substrate that causes said GaN layer to have a crystal orientation in the wurtzite c-axis direction; removing said seed layer from said substrate; and growing said base layer on said bottom surface of said seed layer.

10(Original). The method of Claim 9 wherein said base layer is grown by molecular beam epitaxial growth.

11(Previously presented). In a method for fabricating a semiconductor light emitting device comprising a plurality of semiconductor layers including an active layer between an n-type layer and a p-type layer, said active layer generating light by the recombination of holes and electrons, said active layer having a polarization field therein with a field direction that depends on the orientation of said active layer when said active layer is grown, the improvement comprising growing one of said plurality of semiconductor layers on a base layer such that said polarization field is directed from said n-layer to said p-layer,

wherein said semiconductor light emitting device comprises a substrate having a planar surface on which said layers are grown and wherein said active layer is grown on a surface that is tilted at an angle with respect to said substrate.

12(New). The method of Claim 9 wherein said substrate comprises sapphire and wherein said seed layer is removed by heating an interface between said seed layer and said substrate.

13(New). The method of Claim 12 wherein said interface is heated by exposing said substrate to light of a wavelength that is absorbed by GaN but not by sapphire.

14(New). The optical semiconductor device of Claim 3 wherein one of said layers comprises GaN.

I hereby certify that this paper is being sent by FAX to 703-872-9306.

Respectfully Submitted,

Calvin B. Ward
Registration No. 30,896
Date: Oct. 14, 2004

Agilent Technologies, Inc.
Legal Department, M/S DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599
Telephone (925) 855-0413
Telefax (925) 855-9214